UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/773,423	02/09/2004	Tomoyuki Furuya	00862.023456.	6580

5514   7590   12/21/2009
FITZPATRICK CELLA HARPER & SCINTO
1290 Avenue of the Americas
NEW YORK, NY 10104-3800

EXAMINER
RILEY, MARCUS T

ART UNIT	PAPER NUMBER
2625	

MAIL DATE	DELIVERY MODE
12/21/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>23 September 2009</u>.
2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-14</u> is/are pending in the application.
    4a) Of the above claim(s) <u>2,3,8 and 9</u> is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) <u>1,4-7 and 10-14</u> is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on <u>09 February 2004</u> is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☒ All   b) ☐ Some * c) ☐ None of:
      1. ☒ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____.
      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date <u>08/06/2004;12/04/2007</u>.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1.   This office action is responsive to applicant's remarks received on September 23, 2009. Claims 1, 4-7 & 10-14 remain pending. Claims 2, 3, 8 & 9 have been cancelled.

Response to Arguments

2.   Applicant's arguments with respect to amended claims 1, 7 & 12 filed on September 23, 2009 has have been fully considered but they are not persuasive.

A: Applicant's Remarks

For Applicant's remarks, see *"Applicant Arguments/Remarks Made in an Amendment"* filed September 23, 2009.

A: Examiner's Response

Applicant argues that the applied references do not teach is not seen to disclose or suggest (i) subjecting rendering instructions to color processing and n-value conversion processing of the color processed rendering instructions, and performing rendering processing of n-valued data converted by the n-value conversion processing to generate n-valued bitmap data. Applicant also argues that the applied references do not teach or suggest (ii) exercising control so as to cause multivalued bitmap data to be rendered between the edges if it is determined that the rendering instructions include a rendering instruction other than overwriting for a scan line, and to cause the n- valued bitmap data

to be generated if it is determined that the rendering instructions do not include a rendering instruction other than the overwriting for the scan line.

Examiner understands Applicant's argument but respectfully disagrees. Ohnishi either alone or in combination with Shimzu discloses, teaches or suggests Applicant's claimed invention. Ohnishi discloses (i) subjecting rendering instructions to color processing and n-value conversion processing of the color processed rendering instructions, and performing rendering processing of n-valued data converted by the n-value conversion processing to generate n-valued bitmap data. Ohnishi at column 6, lines 25-33 discloses where the processing for one line has been completed (21-16), the optimal color correction, color conversion and binarization (n-valued) processes are performed for the object in each buffer (21-17). Ohnishi discloses at Fig. 8, Steps S901-S903 and column 8, lines 10-34, exercising control so as to cause multivalued bitmap data to be rendered between the edges if it is determined that the rendering instructions include a rendering instruction other than overwriting for a scan line. For example, at Step S903, the hard renderer 9 performs the rendering and sends band raster information bit map data into the printer engine 13. Thus, Ohnishi either alone or in combination with Shimzu discloses, teaches or suggests Applicant's claimed invention.

As a result, claim 1 is not allowable over the applied references. In addition, independent Claims 7 and 12 are method and printer driver claims, respectively, which generally correspond to apparatus Claim 1. Accordingly, Claims 7 and 12 not allowable. The other claims in the application are each dependent from the independent claims and are also not allowable.

As a result, Applicant's application is not in condition for allowance.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 7 & 10, 11 are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. While the claims recite a series of steps or acts to be performed, a statutory "process" under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing (Reference the May 15, 2008 memorandum issued by Deputy Commissioner for Patent Examining Policy, John J. Love, titled "Clarification of 'Processes' under 35 U.S.C. 101" – publicly available at USPTO.GOV, "memorandum to examining corp"). The instant claims neither transform underlying subject matter nor positively tie to another statutory category that accomplishes the claimed method steps, and therefore do not qualify as a statutory process. In order for a process to be "tied" to another statutory category, the structure of another statutory category should be positively recited in a step or steps significant to the basic inventive concept, and NOT just in association with statements of intended use or purpose, insignificant pre or post solution activity, or implicitly.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4.   **Claims 1, 4-7 & 10-14** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohnishi '465 (US 7,853,465 B1 hereinafter, Ohnishi '465) in combination with Shimzu (US 6,490,055 hereinafter, Shimzu '055).

Regarding claim 1; Ohnishi '465 discloses a printing control apparatus (Fig. 1, Printer 7) for outputting print data and executing printing, comprising: (i.e. Printer 7 prints and outputs and prints data. Column 2, lines 14-19):

storage means (Fig. 1, Main Storage Unit 2) to which rendering instructions are input, for storing the rendering instructions page by page (i.e. The system program and the application program are loaded into a main storage unit 2 via an auxiliary storage unit 3 from a medium reading unit 6. Column 3, lines 50-54);

a first rendering means (Figure 26, Step S26-10) for developing the rendering instructions of each scan into multi-valued bitmap data (Fig. 26, Step S26-11) performing color processing of the multi-valued bitmap data (Fig. 26, Step S26-20) and converting the color processed multivalued bitmap data to n-valued bitmap data (Fig. 26, Step S26-21), wherein the number of bits associated with the multivalued bitmap data is greater than n (Step S26-21, Column 4, lines 6-21);

a second rendering means (Fig. 21, Step S21-0) for subjecting the rendering instructions to color processing and n-value conversion processing of the color processed rendering instructions (Fig. 22, Step S21-17 i.e. When the processing for one line has been completed (21-16), the optimal color correction, color conversion and binarization (n-valued) processes are performed for the object in each buffer (21-17). column 6, lines 27-31);

and performing rendering processing of n-valued data (Fig. 26, S26-21); converted by

the n-value conversion processing to generate n-valued bitmap data (Fig. 26, S26-22);

Ohnishi '465 does not expressly disclose determining means for reading out the

rendering instructions that have been stored in the storage means and determining

whether the rendering instructions include a rendering instruction other than overwriting;

control means for extracting edges of objects in the rendering instructions in each scan

line and exercising control so as to cause the first rendering means to render the

multivalued bitmap data between the edges if the determining means determines that the

rendering instructions include a rendering instruction other than the overwriting for a

scan line and to cause the second rendering means to form the n-valued bitmap data if

said determining means determines that the rendering instructions do not include a

rendering instruction other than overwriting for the scan line wherein the control means

causes the first rendering means or the second rendering means to develop all the

rendering instructions for one scan line into bitmap data before rendering the line by line.

Shimizu '055 discloses determining means (Fig. 1, CPU #12) for reading out the

rendering instructions that have been stored in the storage means (Fig. 1, i.e. Program ROM 6 is

a memory for storing processing procedures as shown in Fig. 2, is a CPU 12 performing the reading of color PDL data

in accordance with the software in the storage means. Column 4, lines 38-42).

and determining whether the rendering instructions include a rendering instruction

other than overwriting (Fig. 6, Band rendering 111, i.e. Fig. 6 shows the different rendering instructions other

that overwrite for each scan line. Column 3, lines 3-8);

control means (Fig. 1, Printer Controller 14) for extracting edges of objects in the

rendering instructions in each scan line and exercising control so as to cause the first

rendering means to render the multivalued bitmap data between the edges if the

determining means determines that the rendering instructions include a rendering instruction other than the overwriting for a scan line (Fig. 8, Steps S901-S903, i.e. At step 901, the CPU 12 extracts scan line information and at Step S903, the hard renderer 9 performs the rendering and sends band raster information bit map data into the printer engine 13See column 8, lines 10-34, and Column 16, lines 5-8);

and to cause the second rendering means to form the n-valued bitmap data if said determining means determines that the rendering instructions do not include a rendering instruction other than overwriting for the scan line (Fig. 8, Step S903, i.e. The hard renderer 9 performs the rendering and sends band raster information (bit map data) into the printer engine 13. Column 8, lines 27-34);

wherein the control means causes the first rendering means or the second rendering means to develop all the rendering instructions for one scan line into bitmap data before rendering the line by line (Fig. 8, Step S901 i.e. Fig. 8 shows the overview of band rendering process. The mask information 151 to be supported is composed of run length of one scan line with no edge crossed, bit map image, and bit map font." column 6, lines 21-24).

Ohnishi '465 and Shimzu '055 are combinable because they are from same field of endeavor of a printing apparatus (Shimzu '055 at "Field of the Invention").

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the printing apparatus as taught by Ohnishi '465 by adding determining means and control means as taught by Shimzu '055. The motivation for doing so would have been because it advantageous to provide a color printing apparatus with determining and control means in order to improve then scanning of a line. Therefore, it would have been obvious to combine Ohnishi '465 with Shimzu '055 to obtain the invention as specified in claim 1.

Regarding claim 4; Ohnishi '465 as modified does not expressly disclose where said storage means sorts and stores entered rendering instructions, and said first and second rendering means read out and process the rendering instructions in the order in which they have been sorted and stored in said storage means.

Shimzu '055 discloses where said storage means sorts and stores entered rendering instructions, and said first and second rendering means read out and process the rendering instructions in the order in which they have been sorted and stored in said storage means (i.e. Each mask object finally created is made by subdividing a page memory for the rendering with smaller memory capacity than the full page memory, i.e., banding, into multiple bands (desirably a power of 2 in height, and optimally about 512 dots), sorting each mask object for each band, and making up a link list as shown in FIG. 5D within each band." Column 6, lines 38-44).

Ohnishi '465 and Shimzu '055 are combinable because they are from same field of endeavor of a printing apparatus ("The present invention relates to a color printing apparatus…" Shimzu '055 at column 1, lines 10).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the printing apparatus as taught by Ohnishi '465 by adding where said storage means sorts and stores entered rendering instructions, and said first and second rendering means read out and process the rendering instructions in the order in which they have been sorted and stored in said storage means as taught by Shimzu '055. The motivation for doing so would have been because it advantageous to store and sort information to in order to maintain organization and not lose imfromation. Therefore, it would have been obvious to combine Ohnishi '465 with Shimzu '055 to obtain the invention as specified in claim 1.

Regarding claim 5; Shimzu '055 discloses where the sorting order is in a direction from the top to the bottom of a page (i.e. Each mask object finally created is made by subdividing a page memory for the rendering with smaller memory capacity than the full page memory, i.e., banding, into multiple bands (desirably a power of 2 in height, and optimally about 512 dots), sorting each mask object for each band, and making up a link list as shown in FIG. 5D within each band. Column 6, lines 38-44).

Regarding claim 6; Ohnishi '465 discloses where the value of n is 2 (i.e. The resultant bit map is binarized (n-valued) to obtain a device bit map. Thus, it consists of, indicate, or involve two. Column 4, lines 15-21 and Column 7, lines 27-32).

Regarding claim 7; Claims 7 & 12 contains substantially similar features as that of claim 1. Thus, claims 7 & 12 are rejected on the same grounds as claim 1.

Regarding claim 10; Claim 10 contains substantially the same subject matter as claim 4. Therefore, claim 10 is rejected on the same grounds as claim 4.

Regarding claim 11; Claim 11 contains substantially the same subject matter as claim 5. Therefore, claim 11 is rejected on the same grounds as claim 5.

Regarding claim 13; Ohnishi '465 discloses where said first rendering means includes: means for generating multi-valued bitmap data based upon the rendering instructions (Fig. 3, i.e. Fig. 3 shows that the obtained color data are then used to perform the development process, and a multi-value bit map image is generated." column 4, lines 6-11);

first color correcting means (Fig. 3, Color Correction) for performing a color correction of the multi-valued bitmap data (i.e. Color correction is performed for multi-value color data that are included in the drawing command. Column 4, lines 6-9);

first color converting means (Fig. 3, Color Conversion) for converting colors of the multi-valued bitmap data that has been subjected to the color correction by said first color correcting means to multi-valued bitmap data of another color space (i.e. Referring to the pattern plane, color conversion, which is consonant with the attribute of an object, is performed for the obtained multi-value bit map, and the resultant bit map is binarized (n-valued) to obtain a device bit map. Column 4, lines 15-19);

and n-value converting means (Fig. 3, Two (N) Valued) for subjecting the multi-valued bitmap data that has been subjected to the color conversion by said first color converting means to an n-value conversion (i.e. Color correction is performed for multi-value color data that are included in the drawing command. The obtained color data are then used to perform the development process, and a multi-value bit map image is generated. At the same time as the color data are being developed to generate the bit map. Referring to the pattern plane, color conversion, which is consonant with the attribute of an object, is performed for the obtained multi-value bit map, and the resultant bit map is binarized (n-valued) to obtain a device bit map. Column 4, lines 6-21).

Regarding claim 14; Ohnishi '465 discloses where said second rendering means includes: second color correcting means for correcting colors of an image included in the rendering instructions second color converting means for converting colors of the image that has been subjected to the color correction by said second color correcting means to colors of another color space (Fig. 26, Step S26-21 i.e. Step S26-21 shows wherein the color process, such as color correction, color conversion or binarization (n-valued process), is performed in consonance with the attribute of the object. Column 8, lines 53-56).

image n-value converting means for subjecting the image data of the image that has been subjected to the color conversion by said second color converting means to an

n-value conversion and creating an n-valued pattern (Fig. 26, Step S26-21 and Fig. 21 Step S21-17

i.e. Step S26-21 shows wherein the color process, such as color correction, color conversion or binarization (n-valued

process), is performed in consonance with the attribute of the object. When the processing for one line has been

completed (21-16), the optimal color correction, color conversion and binarization (n-valued) processes are performed

for the object in each buffer (21-17). Column 8, lines 53-56 and Column 6, lines 27-31);

and means for creating n-valued bitmap data based upon the n-valued pattern

obtained by the n-value conversion performed by said image n-value converting means

(Fig. 26, Step S26-21 and Fig. 21 Step S21-17 i.e. Step S26-21 shows wherein the color process, such as color

correction, color conversion or binarization (n-valued process), is performed in consonance with the attribute of the

object. When the processing for one line has been completed (21-16), the optimal color correction, color conversion

and binarization (n-valued) processes are performed for the object in each buffer (21-17). Column 8, lines 53-56 and

Column 6, lines 27-31).

Examiner Notes

5.   The Examiner cites particular columns and line numbers in the references as

applied to the claims above for the convenience of the applicant. Although the specified

citations are representative of the teachings in the art and are applied to the specific

limitations within the individual claim, other passages and figures may apply as well. It

is respectfully requested that, in preparing responses, the applicant fully considers the

references in its entirety as potentially teaching all or part of the claimed invention, as

well as the context of the passage as taught by the prior art or as disclosed by the

Examiner.

Conclusion

6.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of

time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the

advisory action. In no event, however, will the statutory period for reply expire later than

SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to MARCUS T. RILEY whose telephone number is

(571)270-1581. The examiner can normally be reached on Monday - Friday, 7:30-5:00,

est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, David K. Moore can be reached on 571-272-7437. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system.   Status information for

published applications may be obtained from either Private PAIR or Public PAIR. Status

information for unpublished applications is available through Private PAIR only. For

more information about the PAIR system, see http://pair-direct.uspto.gov. Should you

have questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO

Customer Service Representative or access to the automated information system, call

800-786-9199 (IN USA OR CANADA) or 571-272-1000.

<div style="text-align:right">

Marcus T. Riley
Assistant Examiner
Art Unit 2625
</div>

/MARCUS T. RILEY/
Examiner, Art Unit 2625

/David K Moore/

Supervisory Patent Examiner, Art Unit 2625